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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/766,012

01/29/2004

Peter P. Altice JR.

M4065.0972/P972

2007

24998

7590

05/09/2006

DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP

2101 L Street, NW

Washington, DC 20037

EXAMINER

KO, TONY

ART UNIT

PAPER NUMBER

2878

DATE MAILED: 05/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/766,012

Applicant(s)

ALTICE ET AL.

Examiner

Tony Ko

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 February 2006.  
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.  
4a) Of the above claim(s) 8-18 and 21-31 is/are withdrawn from consideration.  
5) ☒ Claim(s) 19-20 is/are allowed.  
6) ☒ Claim(s) 1-7 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 29 January 2004 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

***Election/Restrictions***

1. Claims 8-18 and 21-31 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 2/22/06. Applicant's arguments filed 2/22/06 have been fully considered but they are not persuasive. Applicant argues that it would not be a burden for the examiner to search the listed species. However, applicant fails to show how the species would not require different searches. Thus, the restriction is deemed proper.

**DETAILED ACTION**

***Specification***

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 5 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Yang (U.S. Patent 6,184,055).

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5. Regarding claim 1, Yang discloses (Fig. 5) a method of operating a pixel of an image sensor comprising: accumulating charge in a photosensor (510); transferring said charge from said photosensor to a storage node (560); and selectively supplying operating power (Sx, that is by turning on or off) to said pixel to produce an output signal on an output line based on the charge at said storage node.

6. Regarding claim 2, Yang discloses reading out the charge residing on said output line (Vb).

7. Regarding claim 5, Yang discloses the charge is transferred by turning on a transfer transistor (Sx).

8. Regarding claim 6, Yang discloses resetting the storage node (Rx) to a predetermined charge level prior to transferring said charge.

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Lee (U.S. Patent 6,777,660).

11. Regarding claim 1, Lee discloses (Figs. 2 and 5) a method of operating a pixel of an image sensor comprising: accumulating charge in a photosensor (11); transferring said charge from said photosensor to a storage node (where M2 and M3 connects); and

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selectively supplying operating power (voltage supplied to 40) to said pixel to produce an output signal on an output line based on the charge at said storage. That is, when the pixel is ready to transfer the voltage, the row select is turned on.

12. Regarding claim 2, Lee discloses reading out the charge residing on said output line (23).

13. Regarding claim 3, Lee discloses prior to accumulating charge in the photosensor, the photosensor is charged with non-image electrons. That is, the photosensor is reset by the ( $V_T - \Delta T$ ) (Col. 4, Lines 55-60).

14. Regarding claim 4, Lee discloses comprising removing said non-image electrons from the photosensor leaving some non image electrons trapped at said photosensor (Col. 4 – Col. 5, line 10).

15. Regarding claim 5, Lee discloses the charge is transferred by turning on a transfer transistor (M3) and prior to said accumulation said transfer transistor is turned off (when the row select is off).

16. Regarding claim 6, Lee discloses resetting (reset by M1) the storage node to a predetermined charge level prior to transferring said charge.

17. Claims 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Lee (U.S. Publication 2004/0174450).

18. Regarding claim 1, Lee '450 discloses a method of operating a pixel of an image sensor comprising: accumulating charge in a photosensor (11); transferring said charge from said photosensor to a storage node (27); and selectively supplying operating

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power (provide signal to 17) to said pixel to produce an output signal on an output line based on the charge at said storage node.

19. Regarding claim 2, Lee '450 discloses reading out the charge residing on said output line (23).

20. Regarding claim 3, Lee '450 discloses prior to accumulating charge in the photosensor, the photosensor is charged with non image electrons. ([39]).

21. Regarding claim 4, Lee '450 discloses comprising removing said non image electrons from the photosensor leaving some non image electrons trapped at said photosensor ([39-40]). That is, the noises (non image electrons) will be trapped at photosensor.

22. Regarding claim 5, Lee '450 discloses said charge is transferred by turning on a transfer transistor (17) and prior to said accumulation said transfer transistor is turned off.

23. Regarding claim 6, Lee '450 discloses resetting the storage node to a predetermined charge level prior to transferring said charge.

24. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

***Claim Rejections - 35 USC § 103***

25. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

26. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yang in view of Berezin (U.S. 2005/0083421).

27. Regarding claim 7, Yang discloses the invention set forth above. Yang does not disclose transferring overflow charge away from said photosensor during accumulating charge in the photosensor through an anti blooming transistor. Berezin discloses (Fig. 4) transferring overflow charge away from said photosensor during accumulating charge in the photosensor through an anti blooming transistor. It would have been obvious to a person of ordinary skill in the art at the time of the invention to transfer overflow charge away from said photosensor during accumulating charge in the photosensor through an anti blooming transistor to prevent the overflow of electrons into the pixel.

***Allowable Subject Matter***

28. Claims 19 and 20 are allowed.

29. The following is an examiner's statement of reasons for allowance: Prior art discloses the invention set forth above. Prior art does not disclose providing a low signal to a channel terminal of a reset transistor that resets a floating diffusion node; turning on the reset transistor and a transfer transistor connected between the floating diffusion node and a photosensor; providing a high signal to the channel terminal of the reset transistor; turning off the transfer transistor; providing a low signal to the channel terminal of the reset transistor; turning off the reset transistor.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Ko whose telephone number is 571-272-1926. The examiner can normally be reached on Monday-Friday 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



THANH X. LUU  
PRIMARY EXAMINER

TKO